

CLAIMS

1. A lithium secondary battery negative-electrode component material, formed by laminating onto a substrate a metallic lithium film and an inorganic solid-electrolyte film, the lithium secondary battery negative-electrode component material characterized in that the inorganic solid-electrolyte film incorporates lithium, phosphorous, sulfur, and oxygen, and is represented by the following compositional formula:



(Li: lithium; P: phosphorous; S: sulfur; O: oxygen), wherein the ranges of the atomic fractions in the composition are:

$$0.20 \leq a \leq 0.45;$$

$$0.10 \leq b \leq 0.20;$$

$$0.35 \leq c \leq 0.60;$$

$$0.03 \leq d \leq 0.13;$$

$$(a + b + c + d = 1).$$

2. The lithium secondary battery negative-electrode component material set forth in claim 1, characterized in that the metallic lithium film incorporates oxygen, and the amount of oxygen incorporated is 1 atomic % or more, but 10 atomic % or less.

3. The lithium secondary battery negative-electrode component material set forth in claim 1 or 2, characterized in that the metallic lithium film is present with oxygen content in the interface between the metallic lithium film

and the inorganic solid-electrolyte film being 1 atomic % or more, but 10 atomic % or less.

4. A method of manufacturing the lithium secondary battery negative-electrode component material set forth in any of claims 1 through 3,
5 the method of manufacturing the lithium secondary battery negative-electrode component material characterized in forming the metallic lithium film and the inorganic solid-electrolyte film by a vapor deposition method, the vapor deposition method being vacuum deposition, ion plating, sputtering, or laser ablation.

10 5. A lithium secondary battery characterized in employing the lithium secondary battery negative-electrode component material set forth in any of claims 1 through 3.